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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/588,347

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Verena M.T. Thiede

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10/27/2008

The Dow Chemical Company
Intellectual Property Section
P.O. Box 1967
Midland, MI 48641-1967

EXAMINER

LEONARD, MICHAEL L.

ART UNIT

PAPER NUMBER

4131

MAIL DATE

DELIVERY MODE

10/27/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/588,347

Applicant(s)

THIEDE, VERENA M.T.

Examiner

MICHAEL LEONARD

Art Unit

4131

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 21 provides for the use of the polyurethane composition as a sealant for the building and construction industry, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 21 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-20 are rejected under 35 U.S.C. 103 (a) as being unpatentable over WO01/58976 to *Waddington et al.* (The column and page numbers recited in the detailed action are from the English language equivalent U.S. Patent No. 6,762,274 to *Waddington et al.* (*Waddington*)) in view of U.S. Patent No. 6,032,412 to *Bohne et al.*

As to claims 1-6, and 14-16 *Waddington* discloses the process for the production of a polyurethane product by reacting in stoichiometric excess of polyol, a polyisocyanate (Column 3, lines 57-60) wherein the polyisocyanate is aliphatic or aromatic (Column 8, lines 14-15), more preferably 2,4'-and 4,4'-mixtures of methylene diphenylisocyanate or blends of toluene-2,4' and 2,6-diisocyanates with a polyol composition comprising 0 to 95 percent by weight of a polyether polyol compound having a functionality of 2 to 8 (b1) (Column 3, lines 15-17), from 5 to 100% by weight of at least one polyol compound having a functionality of 1 to 8 (b2) (Column 3, lines 18-20) wherein the weight percent is based on the total amount of polyol component b1 and b2 (Column 3, lines 21-23). *Waddington* further discloses that the one of the polyols are obtained by alkoxylation of at least one initiator molecule of the formula:



Where n and p are independently integers from 2 to 6, A at each occurrence is independently oxygen, nitrogen, or hydrogen, with the proviso that only one of A can be

hydrogen at one time, R is a C1 to C3 alkyl group, m is equal to 0 when A is hydrogen, is 1 when A is oxygen and is 2 when A is nitrogen or alkyl amine of a C1 to C3 alkyl chain (Column 3, lines 25-35). The initiator molecule is 3,3'-diamino-N-methyldipropylamine (Column 7, lines 39-40). Waddington further discloses that the remainder of the polyol is polyether polyols prepared by adding an alkylene oxide to an molecule having from 2 to 8 active hydrogen atoms and a molecular weight from 2,000 to 10,000 (Column 5, lines 45-55). The selection of the polyol with the appropriate molecular weight, level of ethylene oxide is standard procedures known to those skilled in the art. For example, polyols with a high level of ethylene oxide will be hydrophilic and may be more prone to catalyze the water-isocyanate reaction (Column 6, lines 22-28).

Waddington does not expressly disclose the isocyanate content of less than 15 weight percent.

Bohne et al. discloses mixing a liquid NCO prepolymer having a maximum NCO content of 15% by weight, more preferably 3 to 10% by weight by reacting a polyether polyol of average molecular weight of 250 to 12,000 g/mol (Column 2, lines 19-20) to form a polyurethane composition.

Waddington and Bohne are analogous art because they are from the same field of endeavor with respect to polyurethane compositions using polyols of the same molecular weight and equivalent isocyanates.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use a liquid NCO prepolymer having a maximum NCO content of 15%

in Waddington's experiment because they both used the same polyol composition, isocyanate and they both are applying the polyurethane compositions to a substrate for coating (Waddington, Column 20, line 57-60) or molded bodies for humus-containing plant substrates (Bohne, Column 5, lines 22-25). Waddington discloses that higher %NCO prepolymers have a higher reactivity with regards to disturbances or variations caused by natural variations in the compositions of the certain substrates (Column 1, lines 45-50). The lower %NCO prepolymers would be less likely to react with the coated substrates or the humus-containing plant substrates (Waddington, Column 2, lines 2-6).

As to claims 7-13, Waddington discloses wherein the A-term in the above formula at each occurrence is nitrogen (Column 7, lines 25-27) and the compound is represented by 3,3'diamino-N-methyldipropylamine or 2,2'-diamino-N-methyldiethylamine. Waddington further discloses that the A in the formula above at each occurrence is oxygen (Column 7, lines 10-12) or wherein one A in the formula above is oxygen and the other A is nitrogen (Column 7, lines 33-36) and the formula is represented by N-(2-hydroxyethyl)-N-methyl-1,3-propanediamine (Column 7, lines 39-40). Waddington further discloses that the polyol is derived from a compound which contains an alkyl amine within the polyol chain or a di-alkyl amino group pendant to the polyol chain, which corresponds to the formula presented in claim 1 of the application (Column 3, lines 35-39).

As to claims 17-19, Waddington discloses a hydrophilic polyurethane polymer by bringing together a blowing agent such as water (Column 4, lines 9-10) and capping the

polyether polyols with ethylene oxide in various amounts to make the polymer more hydrophilic (Column 6, lines 21-25).

As to claim 20, Waddington fails to disclose a horticultural growing medium comprising the isocyanate composition and at least one filler material.

Bohne discloses a humus containing plant substrate obtained by slurrying a humus-containing plant substrate in water, mixing a liquid NCO prepolymer with polyether polyol component containing at least one aminopolyether polyol in amount of 0.5 to 100 mole% with respect to the polyether polyol (Column 5, lines 23-30).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL LEONARD whose telephone number is (571)270-7450. The examiner can normally be reached on Monday to Friday, 8:00am EST to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 5712721376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner, Art Unit 4131

/MICHAEL LEONARD/
Examiner, Art Unit 4131